

# Developing a Conceptual Framework and Model for Assessing the Effectiveness of Internal Audit Controls in Iranian Commercial Banks

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## ABSTRACT

### Subject

In this study, the factors affecting the effectiveness of internal controls in Iranian commercial banks were identified and classified.

### Research Method

The method of this qualitative research is "grounded theory"; for this purpose, focus groups were first used before conducting the research and conducting the background interviews. Therefore, nine internal audit managers with relevant experience were invited, then the insights gained from the focus group interviews were used to develop and improve the interview guide. The research sample in the qualitative part was provided to 9 professors and experts in the field of accounting and auditing and supervisors and internal auditors of banks, which led to the preparation of a questionnaire for interviews. In the quantitative part, 404 internal auditors, bank supervisors and accountants were selected by random method. The face and content validity of this tool was approved by experts and its reliability was calculated to be 70 percent, and the data were analyzed using exploratory factor analysis.

### Discussion plan

In this research, an attempt was made to determine the subjective meanings of the studied stakeholders of the effectiveness of internal auditing in Iranian commercial banks and the effective determination of the effectiveness of auditing in Iranian commercial banks, based on the perspective of the studied stakeholders, and the consequences of the effectiveness of internal auditing in Iranian commercial banks, based on the perspective of the studied stakeholders. The results showed that the subjective meanings and factors affecting the effectiveness of auditing are based on six categories as follows: Internal audit unit staff, internal audit system, organization management, organizational facilities, stakeholders, and quality of accounting records.

### Conclusion

Based on the results of this study, commercial banks can identify factors affecting the effectiveness of internal auditing in the form of issues such as staff, internal audit system, management and organizational facilities, accepting stakeholders' opinions, and trying to use reliable and quality accounting system information.

**Keywords:** Internal audit - Internal audit effectiveness - Internal audit scope - Iranian commercial banks.

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## Introduction

### Problem statement

The importance of the internal audit unit and its ability to contribute to the quality of corporate governance through the monitoring role of internal audit, improvement in control and control systems, and the potential to reduce fraud risk (Su and Martino, 2011). Other reasons for the importance of internal audit in corporate governance include its relationship with the internal control risk management system, improving organizational efficiency and effectiveness by providing constructive criticism and advice on the state of the organization, reducing information asymmetry during decision-making, and finally, the fact that internal audit is a vital internal assurance system in the company and the financial reporting process (Hailemariam, 2014). In recent years, the role of internal audit in corporate governance has been increasing, considering its relationship with the internal control risk of the system, and auditors have used this to expand their areas of expertise, such as participation in risk management, control, and governance processes. The effectiveness of internal audit depends on the ability of internal auditors to achieve the goals established in the organization. In fact, it is necessary to clearly state the goals and provide the means to achieve these goals (Dittenhofer, 2001). Organizations with an effective internal audit unit are more likely to detect fraud in their organization than those without such a unit (Badra and Saidin, 2013). Effective internal audit can be a great asset for improving public confidence in financial reporting and corporate governance if it includes the following elements: organizational independence, formal mandate, unrestricted access, adequate budget, competent staff, the existence of an audit committee, stakeholder support, professional auditing standards, and unlimited scope. In this regard, the organization must ensure that internal audit is effective in achieving organizational goals (Badra and Saidin, 2013).

### Importance of Conducting Research

One of the most important mechanisms that has been invented in the field of guiding the effectiveness and efficiency of organizations, especially banks and financial institutions, is the concept of internal controls. This concept can be considered a product of the development of organizational thinking and the complexity of the organization's structure, which itself is a product of the evolution of human societies and the deepening of the concepts of commercial and industrial relations in them.

Therefore, the internal control system is established to ensure the following:

- 1 - Implementation of the organization's policies and guidelines
- 2 - Identification and recognition of the organization's principles and values
- 3 - Strict compliance with laws and regulations and the reliability of financial statements and other published information
- 4 - Efficient and effective management of human resources and other resources (Hosseinpour, 2007).

The Code of Professional Conduct of the Association of Internal Auditors and the International Standards on Internal Auditing emphasize the great importance of independence and impartiality in the internal audit process. Independence in internal auditing is related to the position of the internal auditor in the organizational chart and, of course, its accountability and reporting authorities in the organization (Mashayekhi, Mehrani, 2016).

Based on the proposal of the Ball Committee, the following principles are known as the "Principles of Internal Control System Evaluation" and the banks' management is required to comply with them: management supervision and control culture, risk recognition and assessment, control activities and segregation of duties, information and communication, supervisory activities and correction of deficiencies, evaluation of the internal control system by supervisory authorities (Ball Committee Publications, translated by Arjomand Nejad, August 2006). Within this framework, the duty of the internal audit unit of the country's banking complex is to expand its scope of work so that it can perform financial audit, asset audit, value for money audit and self-assessment control.

There has been no comprehensive research on evaluating the effectiveness of internal audit in Iranian banks and developing a model for measuring it, and research has been conducted in the form of case studies examining the following sub-sectors: from each bank or credit institution.

## Research Objective

The present study comprehensively identifies the subjective meanings of stakeholders in the effectiveness of internal audit and then helps stakeholders to identify the factors affecting effectiveness, how each factor affects audit effectiveness, and identify the consequences and relationships between factors. The purpose of the present study is to improve the level of internal audit in Iranian commercial banks; and in general, the purpose is to identify the factors affecting the effectiveness of internal audit in Iranian commercial banks. Therefore, the specific objectives of the present study were considered as follows:

Determining the subjective meanings of the studied stakeholders of the effectiveness of internal audit in Iranian commercial banks, determining the factors affecting the effectiveness of audit in Iranian commercial banks, and determining the consequences of the effectiveness of internal audit in Iranian commercial banks, based on the perspectives of the studied stakeholders.

## History

### Review of the research background

#### Internal research:

Mahdavi and Namazi (2016), in a study called "Ranking the effective measures on the duties and status of the internal audit unit in executive agencies" state: Understanding the duties, understanding the status of this unit, and also examining the priority of each of the measures effective on its function are of particular importance. Given that the general duties of the internal audit unit in companies and executive agencies are very similar to each other and that the internal audit unit in executive agencies has not been provided with a charter of activities and has not been notified for implementation, the duties of the internal audit unit have been identified using the charter of activities of the internal audit unit of the Tehran Stock Exchange and the research mentioned in the theoretical foundations and background of the research. Using the identified measures and duties, a questionnaire was developed in the form of three criteria including the general conditions of the internal audit unit, the implementation of operations, and the management of the executive agency unit in a paired comparison. The results of the study showed that the measure of "having scientific and professional qualifications of the internal audit unit manager" from the criterion of "general conditions of the internal audit unit", with a closeness index, is the most important measure of the internal audit unit. The measures of "job security of the internal audit unit" and "granting executive power to the internal audit unit by the management of the department" from the criterion of "executive department management" are in second and third place. Also, there is no significant difference between the criteria of the internal audit unit's duties. The most important criterion is "general conditions of the internal audit unit", but there is no significant difference in their rank with other criteria of "operations of the internal audit unit" and "executive department management". Soleimani Amiri and Taheri (2018) in a study called "Ranking Factors Affecting the Quality of Internal Audit Activities: Analytic Network Model (ANP)" with the aim of extracting factors affecting the quality of internal audit activities, prioritized effective criteria under four main criteria with sub-criteria of each using the analytic network model. In their study, the highest importance coefficient of the sub-criteria was related to management's support for the internal auditor in performing his duties, followed by documentation and inspection of internal audit operations, which is far from the first priority, in the second place. Among them, the sub-criteria of auditing all activities and appropriate employment and continuous training of internal auditors are in the next place. Other sub-criteria include appropriate documentation and clarity of the nature of internal audit activities, which again have an appropriate correlation with high-priority criteria. The results of the study show that managers' support for internal auditors, Adequate training and experience of the internal auditor leads to high quality of internal audit and is effective on cost and time. Rostami, Vadiee and Bagherpour (2019) in a study called "Developing a Competency Model for Internal Audit Managers", They collected information through interviews with internal audit stakeholders, including audit committee members and audit unit managers of listed and over-the-counter issuers, partners of audit firms, and university faculty members during 2018. The results of their research indicate that internal audit managers need a set of personal, technical, managerial, and environmental competencies in order to achieve the desired level of effectiveness, and they suggest that by giving importance to the dimensions of internal audit managers' competencies, these factors should be considered in formulating policies, programs, and guidelines, both at the macro and organizational levels. They

conclude that internal audit managers need a set of personal, technical, managerial, and environmental competencies in order to achieve the desired level of effectiveness. The internal audit manager must have:

- 1- Technical competencies: including general knowledge and specialized knowledge,
- 2- Environmental competencies: including communication and interaction competencies,
- 3- Management competencies: including human resource management, leadership management, and proper unit administration, and
- 4- Personal competencies: including attitudinal competencies, personality competencies, cognitive competencies, behavioral competencies, and spiritual competencies.

In a study titled "Explanation of an Effective Internal Audit Model from the Perspective of Stakeholders," Zivari Kamran and Fakhari (2019) sought to explain and present a model of effective internal audit and identify its components. The statistical population in this study consisted of 16 people from the expert population of managers of listed companies, members of audit committees, and managers of audit firms. The context of this research includes Iranian companies (accepted in the Securities and Exchange Organization) that, based on the organization's regulations, all of them have formed an audit committee - as one of the specialized committees of the board of directors - and have designated an individual as the internal audit manager. The aforementioned regulations have led all companies to take action regarding the use of the services of the audit unit, so that a number of them have changed their organizational structure and created a separate unit, and some others have used the services of audit firms in this area. In this regard, the members of the statistical sample of this research have been classified into two parts: internal and external stakeholders. Internal stakeholders include managers of listed companies and audit committees, and external stakeholders include auditors of audit firms. The results obtained from their research in the input section confirm that in order to achieve an effective internal audit system in the organization, the existence of some prerequisites is necessary. These prerequisites are related to both the characteristics of the internal audit unit and the characteristics of the organization. The main categories of the input section include access to sufficient resources and facilities, the independence of the internal audit unit, the transparency of the organization's information system, the existence of a documented governance system, the competence and professional competence of employees and human resources policies, and the effectiveness of the implementation of internal audit operations or processes, including risk management, performance evaluation, control strategies, improving the skills of internal auditors, the effectiveness of organizational communications, and keeping pace with new developments.

Khorramabadi et al., (2019) in a study titled "Explanation and prioritization of factors affecting the effective evaluation of internal controls in companies listed on the Tehran Stock Exchange with a fuzzy approach" have assessed the importance of factors affecting the effective evaluation of internal controls in companies listed on the Tehran Stock Exchange during the period 2018-2019.

The results indicate that among the main criteria, the characteristics of the internal auditor are the most important factor in evaluating the effectiveness of internal controls. In addition, in prioritizing secondary codes (indices), the sub-criterion of scientific, professional and expertise qualifications of the internal audit unit staff, the independence of the internal audit unit and the sub-criterion of transparency of its accountability and reporting authorities are of the highest importance in evaluating the effectiveness of internal controls. Higher technical competencies of internal auditors improve the effectiveness of the internal audit unit and provide a basis for the efficient implementation of internal controls. Other findings of the study show that after the internal auditor, the structure of the board of directors and the independent auditor are the main factors in the implementation of internal controls, which are the second and third most important factors in the assessment of the effectiveness of internal controls, respectively, and their characteristics have a significant impact on the effective implementation of internal controls. In prioritizing the sub-criteria, the variable of the independent auditor specializing in the industry, the internal auditors' continuous awareness of changes and developments in the profession, especially developments in information technology, the technical competence, competence and sufficient knowledge of the members of the board of directors of the activities of the business unit and the allocation of appropriate time to complete the supervisory responsibility, the internal audit unit having ethical values and professional behavior, and the activation of audit committees are in the next levels of importance.

Paksaz and Abdoli (1400) in a study called "Presenting a Model of Internal Consequences of Internal Audit Effectiveness Based on the Analysis of the "Comprehensive Interpretive Model" attempted to identify intra-company consequences with the participation of elites through meta-analysis due to the existence of an effective internal audit, in the form of a qualitative target community. Based on this study, it was determined that increasing the return on assets as one of the indicators of the effectiveness of financial processes is the most important consequence due to the existence of the effectiveness of internal audit within companies. This means that by strengthening the infrastructure of internal controls and in the context of developing effective internal audit within the boundaries of a company, it can be expected that the level of return on assets as one of the ratios indicating the company's ability can lead to an increase in the level of confidence and trust in investment.

Barkhordar et al. (1400), in a study called "Investigating the factors affecting the effectiveness of internal audit and evaluating the role of internal audit in risk management and internal controls of Keshavarzi Bank" examined these factors in the bank Agriculture. The independent variables of this study are: management support for the internal auditor, internal auditor competence, internal audit independence, internal audit size, relationship between internal and independent auditors, and internal audit effectiveness. According to theories related to internal audit effectiveness, five components were considered for it, for which it plays the role of a dependent variable. On the other hand, the internal audit effectiveness variable plays the role of an independent variable for the two dependent variables of improving risk management and improving internal controls. The findings of this study showed that management support for internal auditors has a positive and significant effect on the effectiveness of internal audit. It can be concluded from this finding that management support for internal audit will allow them to have more independent access to the aspects required for review and be able to prevent waste of resources through effective and timely review and increase the efficiency and effectiveness of the organization's activities. The competence of internal auditors has a positive and significant effect on the effectiveness of internal audit. This finding is influenced by the fact that the use of auditors with professional qualifications increases the effectiveness of internal audit. In this regard, educational qualifications, professional qualifications, work experience in the field of internal audit, continuous development and average annual training hours increase the effectiveness of internal audit, and the independence of internal auditors has a positive and significant effect on the effectiveness of internal audit. The main factor for the capability of internal audit is its independence. The size of internal audit has a positive and significant effect on the effectiveness of internal audit. The presence of sufficient staff and resources in the internal audit unit allows internal audit staff to successfully carry out their responsibilities. The relationship between internal and independent auditors has a positive and significant effect on the effectiveness of internal audit. During the audit planning process, the independent auditor should make a preliminary assessment of the work of the internal audit unit in specific areas that are apparently related to the independent audit of financial statements. The effectiveness of internal audit does not have a significant effect on improving risk management in Keshavarzi Bank. It should be noted that because the activities of banks and their role in the money and capital markets expose them to certain hazards and risks that are important for the continuation of the bank's activities. For this purpose, it is necessary to identify, evaluate and control various risks in banking areas. The internal audit unit in the bank should evaluate risk management processes because this issue has been neglected in the internal audit activity of the Agricultural Bank. The results of the last hypothesis test showed that the effectiveness of internal audit has a positive and significant effect on improving internal controls in the Agricultural Bank. Organizations that have an effective internal audit unit

They have a better assessment of the risks of their business environment, processes and business systems, so they take appropriate corrective actions to continuously improve their business environment. Mohammadreza Mohagheghi and Gholamreza Karami et al. (1401) in a study titled "Identification and Ranking of Factors Affecting the Effectiveness of Internal Control Systems in Government Institutions and Organizations" identified and ranked the factors affecting the effectiveness of internal control systems in government institutions and organizations. The results of this study showed that it is possible to identify the factors affecting the effectiveness of the internal control systems of government institutions and organizations based on the knowledge domain analysis and content analysis model, and to refine the more effective factors with a combination of persuasive survey and fuzzy Delphi approach. Accordingly, government institutions and organizations can make their assessment multidimensional and, relying on the identified and refined factors in individual, performance, legal, managerial, environmental and organizational dimensions, measure the internal control of the institutions and organizations under study. In this case, based on the views of experts and scientific foundations, more detailed studies and more comprehensive decision-making will be carried out.

Khosrow Faghani Makrani et al. (1402), in a study titled "Identifying and ranking factors affecting internal audit quality" with the aim of identifying factors affecting audit quality, studied 99 companies listed on the Tehran Stock Exchange. Based on the findings of this study, it was determined that the variables of board size, number of board meetings held, audit committee diligence, industry competition, ratio of foreign sales to total sales, board independence, audit committee size, type of audit report, periodic rotations of internal auditors and company size, ethics, continuous audit and stress in the estimated model had a positive and significant effect on the dependent variable, namely the quality of audit performance. In the ranking stage, company size, audit committee size, type of audit report, board independence, ratio of foreign sales to total sales, number of board meetings and number of audit committee meetings are respectively in the high ranks of influencing the quality of internal audit performance. Gholamreza Kordestani and Seyyed Mohsen Mohammadi Nasab (2014) in a study titled "The Effect of Internal Controls Effectiveness on Risk Disclosure in the Text of Financial Reports" examined the effectiveness of internal controls on the textual disclosure of risk in financial reports.

They analyzed data from 114 companies listed on the Tehran Stock Exchange. Based on the research findings, it can be concluded that auditors' attention to the weakness of internal controls and strengthening the company's internal control structure can improve risk disclosure.

Nader Rezaei and Saeed Khodadad (2013) in a study titled "Explanation and prioritization of factors affecting the effective assessment of internal controls" examined the factors affecting internal controls from the perspective of internal audit experts and scholars.

According to the research results, the most influential factors are the characteristics of the independent auditor, the structure of the board of directors, the characteristics of the internal auditor, the developers of laws and standards, the ownership structure, the characteristics of the industry, and the characteristics of the company, which are classified in the form of 51 propositions.

#### Foreign research:

In a study called "Evaluation of the performance of internal auditors", where the heads of internal audit were the target of the research survey, Zigfis (2000) introduced the top 20 components of audit quality as follows.

**Table (1): Findings of the Zygiface (2000) study**

The audit committee's focus on risk	Employee experience
The number of complaints about the internal audit unit	Audit committee oversight of internal audit
The performance of internal audit from the perspective of audited units	Management expectations of internal audit
Number of management requests	Internal audit recommendation implementation rate
Number of employees with professional certificates	Internal auditor training levels
Rate of operational improvement	Auditor satisfaction survey
Development of quality control techniques	Importance of audit topics
CEO's private meetings with the audit committee	Training hours per person
IT audits	Audit committee satisfaction survey
Years of experience of internal auditors	CAE reporting lines and structure

Pravitt, Smith, and Wood (2009) examined professional experience and certification, training, reporting communications, and financial focus in their research to measure the three criteria stated in the auditing standards, respectively, and stated the relative investment made in the internal audit unit as an important factor in the success of the internal audit unit.

De Sai, Roberts, and Sreistava (2010) examined professional experience and certification, training, planning and supervision - reporting communications, depth of audit scope, implementation of recommendations - efforts, implementation of the plan, completeness, and quality of the report in their research as factors in measuring the three criteria of competence and expertise, objectivity, and nature and scope of work, stated in the auditing standards.

Schneider (2010), in a study called "Analysis of Professional Standards and Research Findings to Guide Decision Making to Rely on Internal Auditing", analyzed professional standards and identified factors through which internal audit helps independent auditors using 270 questionnaires in the United States. The results of his study showed that standards related to audit independence and performance of operations are also applicable to internal audit. Compliance with these standards causes stakeholders to rely more on the work of internal auditors.

Barua et al. (2010), in a study called "Characteristics of the Audit Committee and Investment in Internal Auditing", examined the characteristics of the audit committee and investment in the internal audit unit for 181 companies listed on the US Stock Exchange. The results of their study showed that there is a negative and significant relationship between the budget of the internal audit unit and the number of audit committee members. This shows that the audit committee has a direct impact on the internal audit unit.

Badara and Saidin (2013) conducted a literature review of 30 research articles on audit effectiveness. The most important components that they extracted from the total research conducted on the effectiveness or factors affecting the effectiveness of internal audit are as follows.

**Table (2): Components of the comprehensive research of Badara and Saidin (2013)**

Senior management support	How to perform internal audit operations	Qualified and experienced staff
Client satisfaction	Communication	Professional ethics
Auditor knowledge	Organizational culture	Stakeholder acceptance of internal auditing
Internal audit resources	Independence	Effective internal control system
Internal auditor expertise and competence	Proper planning	Organizational position of internal auditing

Dalia Abbas (2013), in a study titled "Internal Auditor Characteristics and Their Effect on Independent Audit Fees", shows that a range of personal characteristics of the auditor, the professional performance of the internal auditor, completion of specialized and professional courses, and continuous training are important characteristics that affect the quality of internal audit work and, consequently, the reduction of the cost and time of independent auditing. The results show that managers' support for internal auditors, adequate training, and the experience of the internal auditor at the time of hiring are factors that affect the reduction of the cost and time of independent auditing of financial statements. Also, reducing independent audit costs is directly related to monitoring the work of the internal auditor and ensuring the accuracy and quality of collecting internal audit evidence. Badara and Saidin (2013) in a study called "The Relationship Between Experience and Effectiveness of Internal Audit in Public Sector Organizations" in relation to the experience and work expertise of the internal auditor shows that the quality of the audit process is important for auditing. Work experience usually increases quality and based on that, the findings and decisions of the internal auditor have a higher value. In addition, the high experience of the internal auditor gives him empirical knowledge that helps a lot in detecting errors, mistakes and fraud in work processes. Therefore, the

experience of the internal auditor is generally very significant in the structure of empirical knowledge that is given to the internal auditor. In addition, they make better decisions in complex conditions or the type of decisions they make in other conditions is different and distinctive. Lenz and Hahn (2015) in their article titled "An Empirical Review of the Internal Audit Effectiveness Literature with a Focus on New Opportunities" state that internal audit effectiveness is a result of micro-factors, 1- internal audit resources, 2- internal audit process, 3- internal audit communication, and 4- organization, and macro-factors include, 1- coercive forces such as laws and regulations, 2- normative forces such as professional standards of practice, 3- forces related to imitation and assimilation with other organizations and institutions, and 4- other macro-forces.

In their study titled "Internal Audit Work and Financial Reporting: Results of an Empirical Study in German Companies," Gress et al. (2016) used the German regulatory framework, which is characterized by a two-tier board system of corporate governance and different prerequisites for the problem of serving two experts. This may weaken the ability of the internal audit function to monitor processes related to financial reporting. For their analysis, they used survey data to measure the quality of internal audit performance in a German organizational setting and used multiple regressions to examine the relationship between a number of internal audit performance quality attributes and the internal audit performance quality score with financial reporting quality and audit efficiency. Their results showed that in a two-tier system, a high-quality internal audit performance can contribute to both financial reporting quality and audit efficiency. Their findings support the notion that internal audit performance is an essential element of effective corporate governance and plays an important role in financial reporting.

Gross and Koch (2017), in their study on the competency factor of internal auditors, concluded that external certifications of the internal audit unit and certifications of internal audit staff are important factors in examining the competency of this unit in the organization.

Gamayoni (2018), in a study, examined the impact of internal audit performance effectiveness and the implementation of commitment-based government accounting standards on financial reporting quality. The implementation of new government accounting standards in Indonesia was implemented on a commitment basis in 2015, which necessitated the study of its weaknesses and advantages, as well as its impact on improving the quality of financial reporting. The purpose of the study was to obtain empirical evidence and examine 1) the effectiveness of internal audit performance on financial reporting quality and 2) the effect of implementing government accounting standards based on commitment on financial reporting quality. The results of this study provide evidence that the effectiveness of internal audit performance has a significant impact on financial reporting quality, but the implementation of government accounting standards based on commitment did not have a significant impact on financial reporting quality.

Xu et al. (2018) conducted a study entitled Improving the internal control quality model through corporate governance integration. In this study, 2536 observations were created based on "company-year" in relation to companies active on the Chinese stock exchange, and to improve the internal control quality model inspired by the COSO model, criteria such as accountability; risk assessment; Creating competitive advantage and supervisory mechanisms were used, and criteria such as CEO duality, board independence, and board size were used to measure governance integrity. The results showed that governance integrity has a positive and direct effect on improving the quality of internal control in companies. It was also found that governance integrity has a positive and stronger effect on risk assessment and supervisory mechanisms as components of the internal control quality improvement model.

Ossi and Taktak (2018), in a study called "The Effect of Internal Audit Task Characteristics on Internal Audit Quality", examined the effect of internal audit task characteristics. In this study, 59 internal audit managers of listed companies in Tunisia participated, and the research tool was a questionnaire. The results showed that the quality of internal controls is significantly affected by the specialized knowledge of the audit committees of the companies. Because audit committees select internal auditors based on their specialized capabilities and technical knowledge, they are sensitive to the They show more than other companies.

Chang et al. (2019) conducted a study entitled "The Impact of Internal Audit Attitude on Internal Control Effectiveness". In this study, 182 internal auditors of Taiwanese state-owned companies participated through a questionnaire. A questionnaire was used to collect information, and partial least squares was used to test the research hypotheses. In this study, auditors' attitudes towards performing job duties responsibly were measured, and the



effectiveness of internal control was measured through the quality of financial reporting, reduction of financial constraints, and investment opportunities. The results showed that the auditor's attitude in the form of performing internal audit tasks plays an influential role as a criterion for facilitating management oversight and the effectiveness of internal controls in the dimensions of financial reporting, reduction of financial constraints, and investment opportunities.

Strakova et al. (2021), in a study titled "Sustainable Economic Development of Enterprises in the Service Sector Based on Effective Management of Value Streams", state that management participation and support are among the most important factors in improving effectiveness in internal auditing. Strong management support for the work of internal auditors as well as the stages of internal auditing are among the factors of success in internal auditing tasks. It also states that some studies indicate special attention to the issue of financial budgeting and time budgeting during internal auditing stages with the aim of improving audit effectiveness.

Totti (2021) considers investing in the development of organizational reporting in internal auditing and improving the web-based reporting system as an effective step in transmitting important information and preventing deviations in the internal control system, as well as improving the quality and assurance of information and the effectiveness of the internal control system.

Abed et al. (2022), in a study titled "The Moderating Effect of the Audit Committee on Determining Creative Accounting and Financial Reporting Quality in Iraqi Commercial Banks", used modern methods in controlling the internal audit system, analyzed the strengths and weaknesses of the internal control structure, considered the management and organization of ethical principles and its improvement capacities, the commonalities of internal audit, the audit committee, and organizational management to ensure the optimal design and usability of the internal control system. Yousef et al. (2022) consider advanced computer systems with the ability to store a lot of information as the vital heart of the organization in terms of effectiveness, and due to its lack, hardware and software problems are manifested in the effectiveness of the internal control system, as Bazdak (2022) provided evidence that the lack of an advanced hardware system disrupts the improvement and development of the effectiveness of the internal audit control system.

## **Theoretical Framework**

### **Theoretical Foundations:**

**In this section, we first define the research components:**

#### **1- Internal Audit:**

Internal Audit is an independent, impartial, assurance and consulting activity designed and implemented to create added value and improve the performance of an organization. Internal Audit helps the organization achieve its goals by establishing a systematic and systematic approach to evaluate and improve the effectiveness of risk management, control and governance processes.

#### **2- Internal Audit Effectiveness:**

According to the definition of the Audit Organization's Operational Audit Committee, effectiveness is the "degree of achievement of goals". There are other definitions in various books, publications and articles, some examples of which are mentioned below:

\* Effectiveness or usefulness is the degree and extent of achieving the set goals. In other words, it means to what extent the desired and predetermined results and goals have been achieved as a result of the efforts made. In fact, effectiveness is directly related to the determined and predicted goal and providing human satisfaction from the efforts made;

\* Effectiveness means whether the results obtained or outputs are consistent with the expected goals or not? The increase or decrease and in general the difference between the output and the desired goals may have many reasons and the effect of each data is also different and leads to an increase or decrease in output;

\* Effectiveness means doing competent or appropriate work. Effectiveness is related to the selection of appropriate goals. A manager who chooses an inappropriate goal, for example, where there is a demand for small cars, starts producing large cars, is an ineffective manager.

### **3- Qualification, technical training and competence**

The internal auditor must have a university education in the field of accounting and auditing and also have professional experience in the industry in question. The concept of competence includes the ability to perform an activity that consists of the sum of knowledge (codified applied knowledge and technical knowledge based on experience), skills (technical and cognitive) and perceptual ability. This ability is a persistent habit, task-related, observable and measurable, knowledge-based and context-dependent and is considered a core part of the job. The difference between auditor qualifications and their competence is that in competence, in addition to training and skills, there are characteristics that cause them to perform beyond expectations. For example, having problem-solving skills, systemic thinking, communication, creativity and self-management are considered part of the competence set.

### **4 - Commercial banks in Iran:**

Commercial banks accept various types of deposits from the public, especially customers, including savings deposit accounts, term deposit accounts and fixed deposits, these deposits can be withdrawn after a certain period of time. Commercial banks provide loans and facilities in various forms, including overdraft facilities, cash credit, discounting of commercial papers and bonds and various other services. They also provide loans against appropriate collateral according to the demand and conditions of customers. Specifically, Iranian commercial banks include Melli Iran, Sepah, Post Bank of Iran, Tejarat, Mellat, Saderat Iran, Refah Kargan, Eghtesad Novin, Parsian, Karfarin, Saman, Pasargad, Sarmeh, Sina, Shahr, Tursat, Iran Zamin, Mehrabad, Ayandeh, and D. The definition of the Institute of Internal Auditors states: "Internal auditing" is an independent and impartial assurance and consulting activity that aims to add value and improve the organization's operations (IIA, 2010). This definition implies that internal auditing has undergone a paradigm shift from emphasizing accountability in the past to improving future results, to help the client do things more effectively and efficiently (Mehret and Isma, 2010). Modern internal auditing is based on the three principles of effectiveness, efficiency, and cost-effectiveness. Effectiveness means doing the right thing, efficiency means doing them well, and cost-effectiveness means doing things cheaply and economically. However, effectiveness is the most important of the three principles. If auditing becomes ineffective, it is ultimately futile and useless; and without effective work, efficiency and economy are meaningless (Lens and Hahn, 2015). Early research has focused on examining the impact of internal audit quality on independent auditors' evaluation of their work and reliance on the work of internal auditors (Brown, 1983; Brown and Karan, 1986; Egg and Fairley, 1991; Meiser and Schneider, 1988). These studies have focused on three main factors considered by independent auditors, including "competence, impartiality, and operational performance". The main findings of these studies consider competence and optimal operational performance and place impartiality in second place, and Brown (1983) showed that for independent auditors, the impartiality of internal audit is much more important than its professional competence.

In subsequent studies, most researchers have emphasized the measurement of internal audit quality based on the criteria emphasized in the independent auditing standards. Independent auditing standards considered three criteria in order to rely on the work of the internal auditor for independent auditing (AICPA, 1990, PCAOB, 2007, and IFAC, 2009). According to these standards, the independent auditor should use his professional judgment in assessing the quality of the internal audit unit, including assessing "competence and expertise", "objectivity", and "nature and scope of internal audit work" related to financial reporting and auditing financial statements. Kaplan and Schulz (1983) have considered the concepts of professional certification, objectivity, and scope of work in their research, and have also considered the volume of investment made in the internal audit unit as an important factor in the quality of internal audit.

### **Internal Audit in Iran**

In this section of the theoretical foundations, we will discuss the history of internal audit in Iran and the history of this issue in banks. The existence of an internal audit unit in public service organizations and institutions is a necessity, and in some of them it is a legal requirement. Even in organizations where there is no internal audit unit, protecting public resources and using them optimally is a heavy duty on the shoulders of the organization's management. Therefore, the existence of an effective internal audit unit is vital and fundamental in terms of helping

management in carrying out these tasks and fulfilling obligations; therefore, the work of internal audit is an independent assessment of the entire internal control system of the organization. (Kamali Zare and Arbab Soleimani, 2014). In Iran, the internal audit process in its modern form is not very old, and due to the lack of laws, regulations, and necessary standards in the field of internal audit, as well as the lack of a professional association of internal auditors in previous years, each economic unit had used internal audit services individually and specifically. In most government organizations, a unit called internal audit was established, which usually performed tasks that were minor compared to the main tasks of internal audit and only within the framework of approved administrative instructions, mainly tasks such as document control (and a kind of compliance audit). In large private sector companies, especially in companies listed on the stock exchange, a specific method for establishing an internal audit unit or using the specialized services of certified public accountants to conduct internal audits (outsourcing) was not used on a continuous basis (Zalghi, 2010). The Association of Internal Auditors in Iran was established based on the provisions of the statute approved by the General Assembly on 04/04/1391 in order to organize the necessary arrangements to better explain the role of internal auditing with the aim of creating value and increasing the reliability and trust in the financial statements and financial and non-financial reports of production, service and commercial units in the private, government, cooperative and bank sectors and in order to increase the transparency of financial information at the national level. In accordance with the provisions of Article 4 of the statute of this association, the purpose of establishing the association is to "regulate the affairs and promote the internal auditing profession in the country and professionally supervise the work and quality of professional services provided by internal auditors who are members of the association" (quoted from the website of the Association of Internal Auditors of Iran).

During the period since its inception, the Association of Internal Auditors has taken steps to grow and develop the internal auditing profession in Iran by holding trainings and seminars and also holding exams. Now, the scope of internal auditing has expanded much more than in the past. In internal auditing, the efficiency of operations and the way information technology works are examined. In this type of auditing, the effectiveness and efficiency of business transactions, the role of activities in improving the company's processes and operations, risk management, and monitoring customer satisfaction are considered (Mahmoudzadeh, 2013). Auditing Standard 610, titled Evaluating the Work of the Internal Audit Unit, describes internal auditing as follows: "The evaluation task that occurs within the entity under review and by its employees in order to provide services to that entity and is considered one of the main elements of the control environment. Evaluating and reviewing the adequacy and effectiveness of accounting and internal control systems is one of the main tasks of the internal audit unit." Also, in the standard mentioned, the scope of the duties of the internal audit unit is determined by management and its objectives are different from the objectives of the independent auditor, who is appointed to provide an independent opinion on the financial statements. The objectives of the internal audit unit change according to the needs of management; while the main objective of the independent auditor is to ensure that there is no material misstatement in the financial statements. The Charter of Internal Audit Activities was approved by the Board of Directors of the Securities and Exchange Organization on November 23, 2012, and includes 10 articles and 5 notes. Article 1 of this Charter states that "the mission of the internal audit unit is to provide independent and impartial assurance and consulting services in order to add value and improve the company's operations. By creating a systematic and methodical approach, internal audit helps the company to evaluate and improve the effectiveness of governance, risk management, and control processes in order to achieve its goals." Thus, one of the missions of the internal audit unit is to create added value for the organization. Therefore, as stated earlier, the internal audit unit must be effective in order to create value.

The year 2012 is considered a brilliant year for Iran (Iranian companies) in terms of implementing some corporate governance mechanisms. Based on the resolution dated 02/16/1391 of the Board of Directors of the Stock Exchange Organization, in order to protect the rights of investors, prevent violations, and organize and develop a transparent and fair securities market, the Internal Controls Guidelines for Issuers Listed on the Iranian Stock Exchange and Over-the-Counter were approved. The provisions of Article 10 of the aforementioned guidelines made it mandatory for listed and over-the-counter issuers to establish an internal audit unit under the supervision of the audit committee. The provisions of the aforementioned article stipulate that the internal audit unit must continuously review and evaluate the effectiveness of the internal control system, report the results to the audit committee and the board of directors, and follow up on methods to improve the internal control system. Also, the "Model Charter of the Audit Committee" and the "Model Charter of Internal Audit Activities" as two important documents in this field were approved by the Board of Directors of the Stock Exchange Organization on November 23, 2012. In this regard, the

provisions of the Articles of Association of Internal Auditors on April 4, 2012 and its executive regulations were approved by the Assembly of the Iranian Association of Internal Auditors, and the said association was also formed. Based on According to Chapter 3 of the Internal Controls Directive, the board of directors of the companies covered must evaluate the company's internal controls at least annually and publish the results of the evaluations to the public. Article 15 also requires that the company's internal controls report must include the audit unit's evaluation and opinion on the internal controls of its subsidiaries. Given that internal audit is mainly responsible for evaluating the company's internal control system on behalf of the board of directors, the establishment of internal audit (forming an in-house or outsourcing unit) for subsidiaries of listed and non-listed issuers also became relevant, and in this regard, many of the aforementioned issuers also established internal audit in their subsidiaries. Before 2012, with the exception of the Central Bank's guidelines regarding Iranian banks, there was no other requirement for the establishment of an internal audit unit for companies listed on the stock exchange; According to the website of the Internal Audit Unit of the Stock Exchange Organization, the statistics of internal audit units formed by issuers under the supervision of the CEO before the aforementioned directive were 108 companies, which were mainly active, so it can be claimed that many Iranian companies have voluntarily used its services in order to monitor business affairs and use the value-added services of internal audit. It can be expected that with the increase in the level of awareness of managers, more Iranian companies will voluntarily use internal audit services because if it is established in principle, the efficiency of internal audit (preventing unnecessary leaks due to the lack of efficiency and effectiveness of internal controls, management's attention to critical issues, providing value-added and consulting services) will be far greater than the amounts invested in it (Nikbakht, Rezaee, and Manti, 2017).

### **1-3-2-2-Regulations of the Central Bank of the Islamic Republic of Iran**

According to the audit report of the Board of Directors, the ultimate responsibility for ensuring that senior management establishes and maintains effective and adequate internal control systems, a measurement system for assessing the risks of the bank's various activities in relation to the level of capital, and appropriate methods for controlling the bank's compliance with laws, regulations, and internal policies lies with the bank's board of directors.

The bank's senior management is responsible for improving the processes that measure, monitor, and control the bank's risks.

In order to manage their responsibilities, the board of directors of banks takes various structural measures, including:

- 1 - Appointing a certified auditor
- 2 - Forming an audit committee with an audit committee and a risk management committee on the board of directors
- 3 - Developing regular communication between internal and independent auditors
- 4 - Restructuring the internal audit department in accordance with regulatory guidelines
- 5 - Issuing a policy guideline for internal audit activity
- 6 - Reviewing and approving the annual audit plans of internal auditors (Basel Committee on Banking Supervision, 2002)

The principles of internal audit of banks, based on the statement of the Basel Committee on Banking Supervision (2002), are as follows:

#### **1 - Permanent work:**

The bank's internal audit should be permanent. Senior management should take all necessary measures so that the bank can continue to rely on internal audit to the extent necessary.

#### **2 - Independence, impartiality and fairness:**

The Internal Audit Committee's report reminds the importance of the work of the internal audit unit, compliance with the principles of independence, impartiality and fairness.

### **3 - Professional competence:**

Professional competence is achieved through various methods, the most common of which are: in-service training, formal internal and external training, rotation of internal audit unit staff, and encouragement to achieve the status of a certified internal auditor.

### **4 - Scope of activities and organization of the internal audit unit:**

In all banks, every activity and every independent unit of the bank falls within the scope of internal audit.

Making Internal Audit Functional

1 - Methods and Types of Audit

2 - Procedures

3 - Audit Unit Management

Relationship between the Supervisory Authority and the Internal Audit Unit and the Independent Auditor

1 - Relationship between the Supervisory Authority and the Internal Audit Unit

2 - Relationship between Internal Audit and the Independent Auditor

3 - Relationship between the Supervisory Authority and the Independent Auditor

Outsourcing of Internal Audit Work (Basel Committee on Banking Supervision, Internal Audit in Banks and the Relationship of Supervisors with Auditors, August 2002) Based on the guidelines on the principles governing internal audit operations, the Basel Committee issued guidelines in July 2012 to replace the previous guidelines of this committee, in which the institution's expectations of the internal audit unit of banks as well as supervisory institutions (the central bank) were specified. The general outline of the internal audit duties in this guideline is briefly stated as follows:

Evaluating the quality and effectiveness of internal controls, risk management and the monitoring process in the bank,

Evaluating compliance with the laws and regulations governing the bank's activities as well as the bank's internal regulations,

Providing suggestions for improving the bank's operations from the perspective of efficiency and effectiveness, and

### **Helping to prevent or detect fraud.**

The Central Bank of the Islamic Republic of Iran, in a circular No. Mab/1172 (31/03/2007) entitled "Guidelines for an Effective Internal Control System in Credit Institutions" has issued a circular to banks and credit institutions to implement and provide the necessary framework for establishing an effective internal control system, which requires banks to report every six months to the General Directorate of Supervision of Banking Affairs of the Central Bank on the progress of the implementation of a comprehensive internal control system and the measures taken in the effective implementation of this circular.

The aforementioned circular states in its sixth chapter:

"Continuous monitoring and conducting case assessments are essential to maintain the effectiveness of internal controls by various units, including the relevant business area, financial units, and the audit unit. The benefits of continuing this procedure include the rapid identification and discovery of deficiencies in the internal control system, informing management of them, and taking corrective measures. For this purpose, the credit institution must ensure the following:

1 - The internal audit unit, in addition to having an appropriate organization, is composed of employees who have scientific qualifications and expertise as well as sufficient experience and are aware of their role and responsibilities.

This unit should perform its duties under the supervision of the audit committee or the board of directors of the credit institution.

2 - The board of directors, the executive board, and other relevant officials are informed of the findings of the internal audit, independent audit, and other relevant authorities.

3 - A process has been established to review and improve internal control when the internal and independent audit unit or bank supervisors identify and discover deficiencies in the internal control system.

4 - When expanding operations to new markets, the introduction of new internal control products and the adequacy of risk management have been reviewed.

5 - In the case assessment, the nature and extent of changes in the internal control system and the related risks, the competence and experience of the control implementers and the results of ongoing supervision have been taken into account.

The establishment of an internal audit unit in credit institutions and their subsidiaries is also subject to the requirements, instructions, and guidelines of the Central Bank of the Islamic Republic of Iran. In this regard, the Ball Committee has issued a supervisory guideline in 2001, "Internal Audit in Banks and the Relationship of Supervisors with Auditors", in order to strengthen supervision and encourage the implementation of sound activities in banks. Then, in 2012, a document entitled "Internal Audit in Banks" was published by this committee, replacing the 2001 edition. It seems that the new edition takes into account the structure of banks, supervisory activities, as well as experiences related to the recent financial crises in 2012 2007 and 2008 have received more attention. According to the published Corporate Governance Development Principles, banks should have an internal audit function, and a strong internal control system including an effective and independent internal audit function is considered. Also, Principle 5 of the Corporate Governance Principles for Banks, published by the Ball Committee (2015), in a group structure states that the board of directors of the parent company (bank) has overall responsibility for the group to ensure that an appropriate governance framework is in place that is appropriate to the structure, business, and risks of the group and each of its subsidiaries. According to paragraph 96 of this guideline, the board of directors of the parent company should establish an effective internal audit function to ensure that audits are carried out in all subsidiaries as part of the group or the group as a whole. Also, its tenth principle considers the internal audit unit essential to provide independent assurance to the board of directors and senior management in order to improve the effective governance processes and credibility of the bank. According to this principle, an effective internal audit unit is considered the third layer of defense in the control system. In this regard, the Central Bank has always emphasized the establishment of an effective internal audit unit in banks and credit institutions through various circulars and guidelines. As an example, we can refer to Circular No. 1172/Mob dated June 11, 2007, entitled "Guidelines for an Effective Internal Control System in Credit Institutions", which is a translation of the 1998 edition of the Ball Committee. In this circular, internal audit is proposed as one of the essential elements of its sixth chapter, namely, "The Monitoring Component of the Internal Control Framework". Also, the Central Bank of Iran has communicated to the banking network of the country the "Guidelines on Requirements Governing Corporate Governance in Non-Governmental Credit Institutions" in order to strengthen the governance of credit institutions and achieve operational goals, financial reporting, and compliance in credit institutions, which was approved by the Monetary and Credit Council in its meeting on May 12, 2017, in late May 2017. This guideline also emphasizes the role and establishment of internal audit in banks. So much so that its fourteenth chapter is specifically dedicated to internal audit. Article 90 of it also obliges the board of directors of a credit institution to establish an independent internal audit unit under the supervision of the board of directors, and emphasizes the prior approval of the qualifications of the director of that unit by the Central Bank (according to Article 92).

### **2-3-2-2-Executive Procedure for Combating Money Laundering in Commercial Companies and Non-Commercial Institutions**

This procedure was approved by the Supreme Council for Combating Money Laundering on Tuesday, June 13, 2012, and was notified for implementation. Article 12 of the procedure explicitly recognizes internal auditing, and the duty of reporting and providing documents and information indicating money laundering activities to the independent auditor is assigned to the internal audit unit.

**Research Objectives:**

The ideal goal of the present study is to improve the level of internal auditing in Iranian commercial banks; and in general, the goal is to identify the factors affecting the evaluation of the effectiveness of internal auditing in Iranian commercial banks.

The specific objectives of the present study are as follows:

Determining the subjective meanings of the studied stakeholders regarding the effectiveness of internal auditing in Iranian commercial banks

Determining the factors affecting the effectiveness of auditing in Iranian commercial banks, based on the perspectives of the studied stakeholders

The practical objective of this study is to develop a model by which the effectiveness of internal auditing can be expressed in numbers or percentages in each bank or credit institution and presented to the audit committee or the bank's board of directors in order to evaluate, improve, and discover the effectiveness of internal auditing as an efficient and effective component of the internal control system.

**Methods and tools for data analysis:****1- Research method:**

In this study, the qualitative research method of "grounded theory" was used. The most important reasons for choosing the grounded theory method are as follows:

When there is little known about the area of study.

When there is no grounded theory to explain the relevance of a particular psychological construct to the behaviors under study.

When the researcher is interested in challenging existing theories.

When the researcher needs to understand the perceptions and experiences of participants in a particular case.

When the researcher's goal is to develop a new theory.

A review of the research literature revealed that, regarding the dimensions of internal audit effectiveness, research based on the positive paradigm has provided limited insight, and the cases raised indicate that a model for internal audit effectiveness has not been considered. On the other hand, considering the stated objectives, this research aims to provide a proper understanding and awareness of the perceptions and insights of internal audit stakeholders regarding internal audit effectiveness in the form of a model by using grounded theory.

This research is classified in terms of the dominant research paradigms, namely "affirmative", "interpretive" and "critical", due to its specific nature, namely that the phenomenon of "internal audit" and "internal audit effectiveness" is essentially a creation of the human mind and is classified in the interpretive paradigm group; therefore, it is in the qualitative research category in terms of methodology.

In this type of research, instead of trying to explain the mere cause-and-effect relationships, it interprets events and phenomena in natural environments to clearly clarify the complexities of those events and events. Therefore, the phenomenon of internal audit effectiveness in its natural environment (Iranian commercial banks) was studied with a qualitative approach and with the help of grounded theory through the study of its stakeholders who have experience and are most involved in the subject under study. The stages of conducting research using the grounded theory method include developing research questionnaires, collecting data, open coding, axial coding, selective coding, writing analytical notes, recording thoughts and interpreting the data, and writing and formulating the theory.

## **2 - Research scope**

### **Subject scope:**

The subject scope of the present research is to identify and formulate a conceptual framework for the effectiveness of internal audit in Iranian commercial banks.

### **Spatial scope:**

The spatial scope of the present research is the main stakeholders (users and providers of audit services) of internal audit, namely board members, managing directors, senior executive directors, members of the audit committee, internal audit managers of Iranian commercial banks, directors and board members of the Audit Organization, the Stock Exchange Organization, the Society of Certified Public Accountants, and the Iranian Internal Audit Association, as professional institutions of this research.

### **Time scope:**

The time scope of the present research is from 1400 to 1403.

## **3- Data collection method:**

Interviews are an appropriate method for collecting data in grounded theory, because interviews are based on daily experiences and conversations (live experiences) and provide in-depth data.

In this study, focus groups were used before conducting the research and conducting the background interviews. For this purpose, nine experienced internal audit managers were invited and asked the main research questions, especially the factors affecting the effectiveness of internal audit. The insights gained from the focus group interviews were used to develop and improve the interview guide to ensure the following:

Uniformity and coverage of the research questions (research topics)

Reducing researcher biases towards preconceived issues

Ask key questions to explore the opinions and experiences of the participants

The interview guides were provided to several university professors and their opinions were obtained and final amendments were made. Finally, research questions were extracted from these amendments and provided to the target groups through a questionnaire, and their opinions were obtained for analysis and conclusions. The most important goal discussed in the interview was the ability of the interviewees to judge the effectiveness of internal audit and its components. Therefore, exploring their minds regarding the high or low effectiveness of internal audit, which they are related to, was considered one of the most important questions. The open-ended question, which is asked at the beginning of the interview, provided the interviewees with the opportunity to delve deeply into the subject under study.

## **4- Society and Statistical Sample:**

In this study, the sample includes the main stakeholders (users and providers of audit services), members of the audit committee, internal audit managers of Iranian commercial banks, and the Iranian Internal Audit Association, as professional institutions of this study. It is important to note that the participants mainly have experience in the various positions mentioned or have experienced this position during their professional activities. Also Participants with active internal audit experience (as providers or users) were selected by convenience.

The research sample in the qualitative part was 15 professors and experts in the field of accounting and auditing, and supervisors and internal auditors of banks, who were selected by convenience. The sampling process continued until theoretical saturation was achieved. In grounded theory, saturation of data is a state in which the researcher subjectively reaches the concepts that new data does not provide new information or more knowledge than the development of categories, and in the quantitative part, there were 404 internal auditors, bank supervisors and accountants, who were selected by random method. Interviews and questionnaires were used to collect data. The face



and content validity of this tool was approved by experts and its reliability was calculated to be 70%. The data were analyzed by exploratory factor analysis.

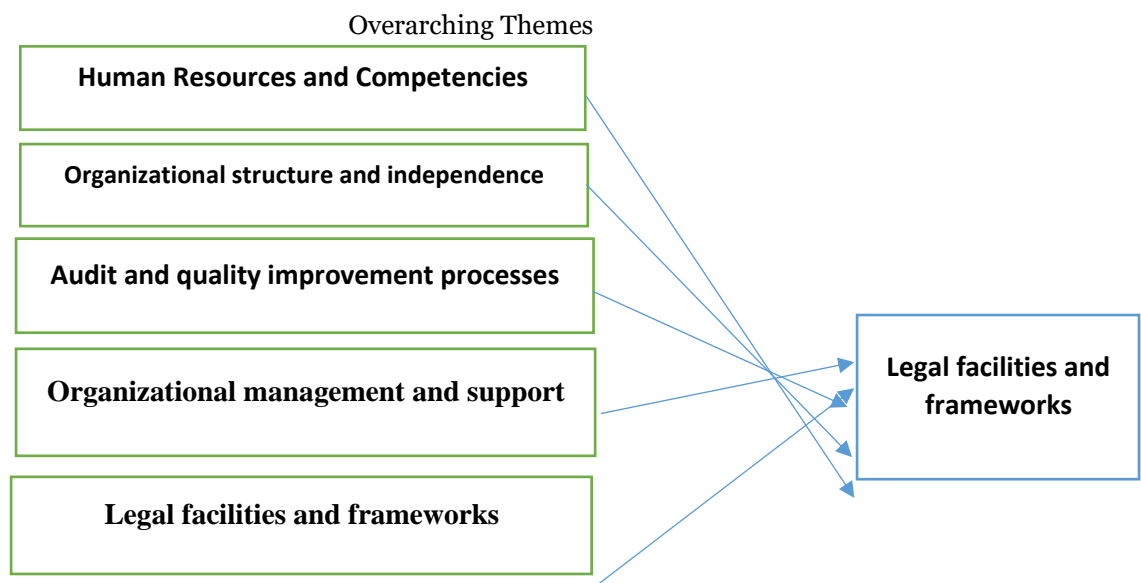
### Software system

According to Azar (2002), one of the most powerful and appropriate methods of analysis in behavioral and social science research is multivariate analysis because such issues are multivariate and cannot be solved with the bivariate method (where one independent variable is considered with one dependent variable each time). "Analysis of covariance structures" or "structural equation modeling" is one of the main methods of analyzing the structure of complex data and one of the new methods for examining cause and effect relationships. It means analyzing different variables that show the simultaneous effects of variables in a theory-based structure. Through this method, the acceptability of theoretical models in specific societies can be tested using correlational, non-experimental and experimental data. For data analysis, the smart pls statistical software was used, considering the number of participants in the research ( $N > 100$ ). Using measured correlations and covariances, this software can estimate or infer the values of factor loadings, variances, and errors of latent variables, and it can be used to perform exploratory factor analysis, second-order factor analysis, confirmatory factor analysis, and path analysis (causal and effect modeling with latent variables). In addition to having exploratory or suggestive value, exploratory factor analysis can be structuring, modeling, or hypothesis-building.

### Research Findings

By examining the results of expert opinions and reviewing the research background, it was determined that the factors affecting the effectiveness of internal auditing in Iranian commercial banks can be divided into six components as shown in the following chart and table, and each has its own specific themes.

**Figure (1): Research Findings Chart**



**Table (3): Components and themes affecting the effectiveness of internal audit**

Basic content	Organizing Theme	Comprehensive theme
Professionally qualified and experienced staff	<i>Qualifications and Experience</i>	Human Resources and Competencies
Internal auditor expertise and competence		
Professional certificates of the head of internal audit		
Professional competence and continuing education	Training and Development	
Currentness of auditor knowledge and skills		
Internal audit acceptance by stakeholders		

Adherence to professional ethics during and after	Ethics and Organizational Culture	
Organizational culture including spontaneous discipline of employees		
Having an independent internal audit system	Independence and Organizational Status	Organizational structure and independence
Organizational position of the internal audit unit		
Independence		
Access of the internal audit unit to internal	Access and Size	
Size of the internal audit unit		
Internal audit acceptance by stakeholders	Acceptance and accreditation	
The credibility of the internal audit unit in the		
Designing an effective internal control system	Internal controls and planning Quality improvement and monitoring	Auditing and Quality Improvement Processes
How to implement internal audit operations		
Proper and targeted planning		
Using a risk-based approach	Monitoring and evaluation	
Up-to-date measurement and evaluation criteria		
Existence of a quality assurance and improvement		
Careful and continuous monitoring of system	Management support	
Continuous assessment of the performance of the		
The role of the audit committee in internal audit	Communication and satisfaction Risk control structures	Management and Organizational Support
Support and accompaniment of senior management		
Continuous review of policies and procedures by		
Communications	Facilities and technology	
Company size		
Ensuring client satisfaction		
Risk management	Standards and guidelines	
Supreme Risk Management Committee in the		
Communication between internal and independent	Legal frameworks Acceptance and accreditation	Legal Facilities and Frameworks
Up-to-date hardware and software facilities		
Reliability		
Up-to-date standards used	Internal controls and planning Quality improvement and monitoring	
Timely communication of standards, procedures and		
Quick access to the latest accepted and localized facilities, standards and guidelines		
Applying a comprehensive approach in the		
Presentation Clear instructions from governing		

#### 4-4-1-Confirmatory factor analysis of the overarching theme of human resources and competencies

Figure 4-6 shows the confirmatory factor analysis model of the overarching theme of human resources and competencies in the standard estimation mode:

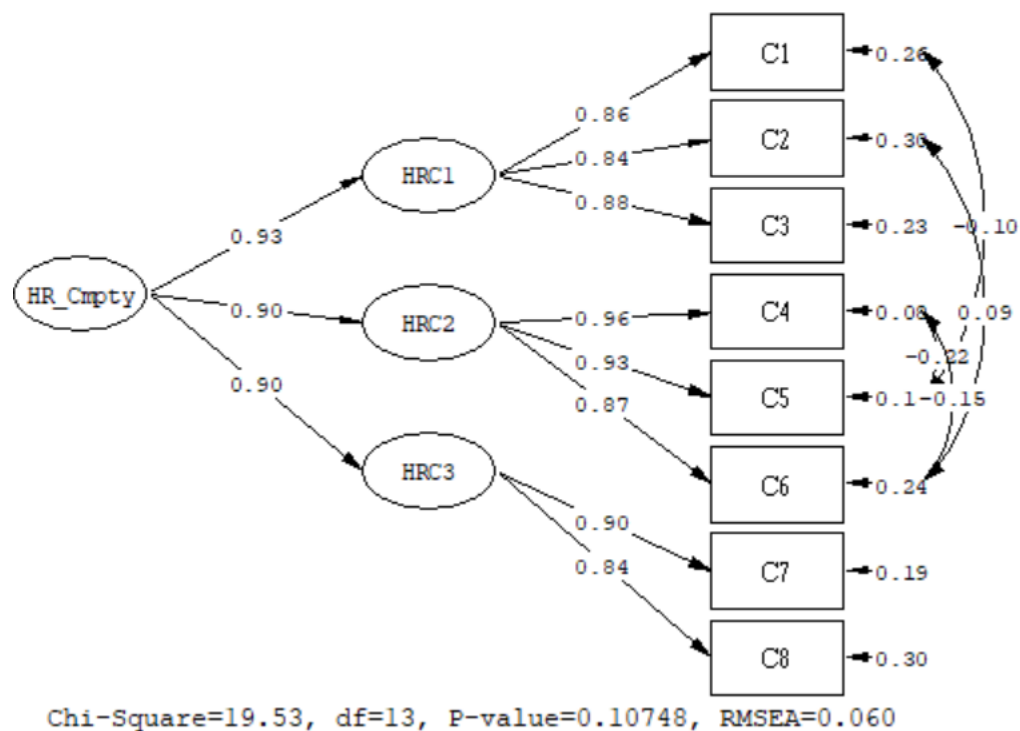
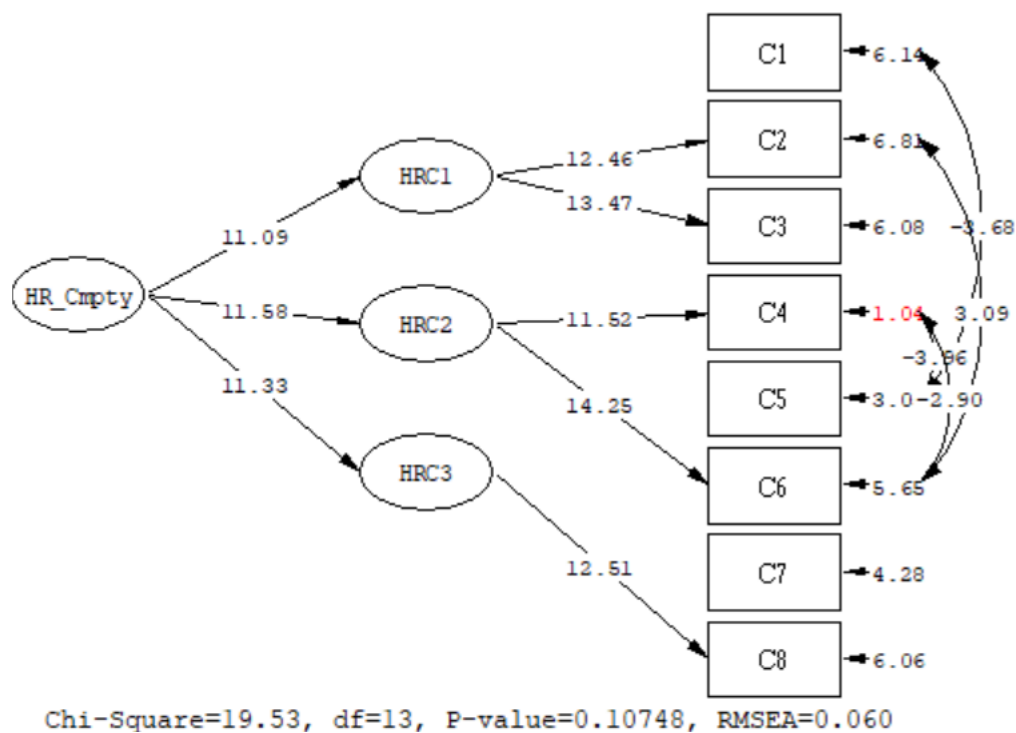


Figure 4-1- Confirmatory factor analysis of the overarching theme of human resources and competencies in the standard estimation mode

As is clear from Figure 4-6, all factor loadings of the basic and organizing themes are greater than 0.4.

Figure 4-7 shows the confirmatory factor analysis model of the overarching theme of human resources and competencies in the significant coefficient mode:



#### 4-1-Confirmatory factor analysis of the overarching theme of organizational structure and independence

Figure 4-6 shows the confirmatory factor analysis model of the overarching theme of organizational structure and independence in the standard estimation mode

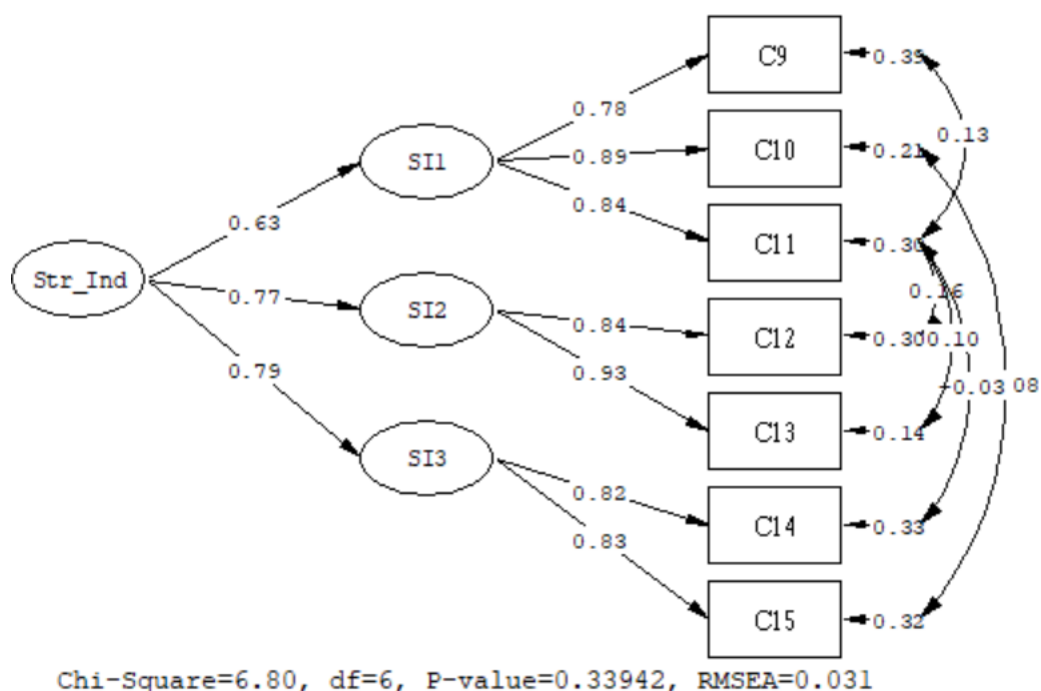
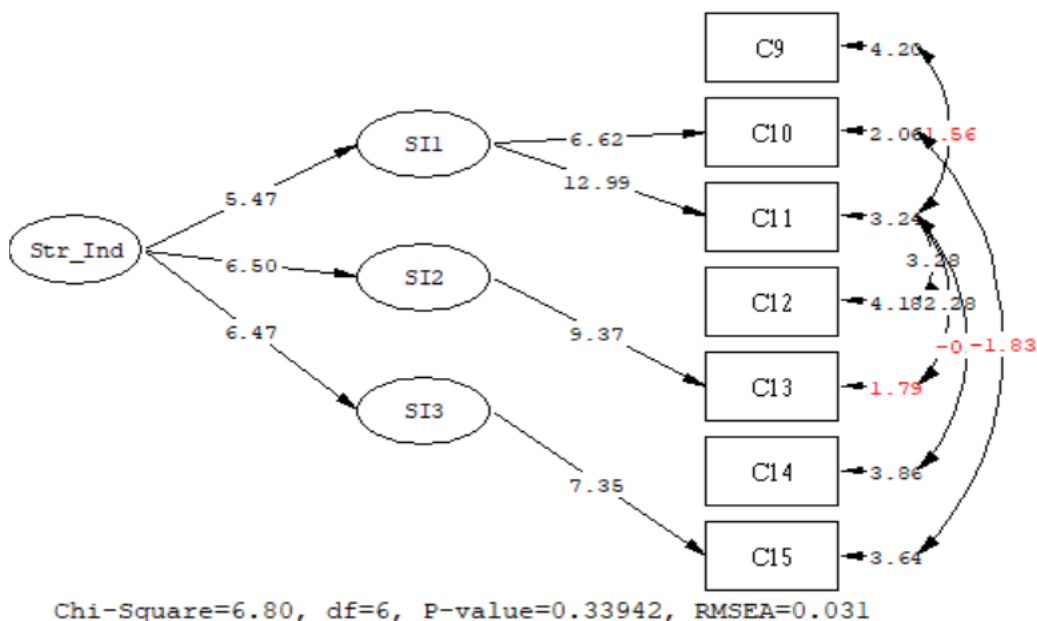


Figure 4-2- Confirmatory factor analysis of the overarching theme of organizational structure and independence in the standard estimation mode

As is clear from Figure 4-6, all factor loadings of the basic and organizing themes are greater than 0.4. Figure 4-7 shows the confirmatory factor analysis model of the overarching theme of organizational structure and independence in the significant coefficient mode:



#### 4-1-Confirmatory Factor Analysis of the Overarching Theme of Auditing and Quality Improvement Processes

Figure 4-6 shows the confirmatory factor analysis model of the overarching theme of audit and quality improvement processes in the standard estimation mode.

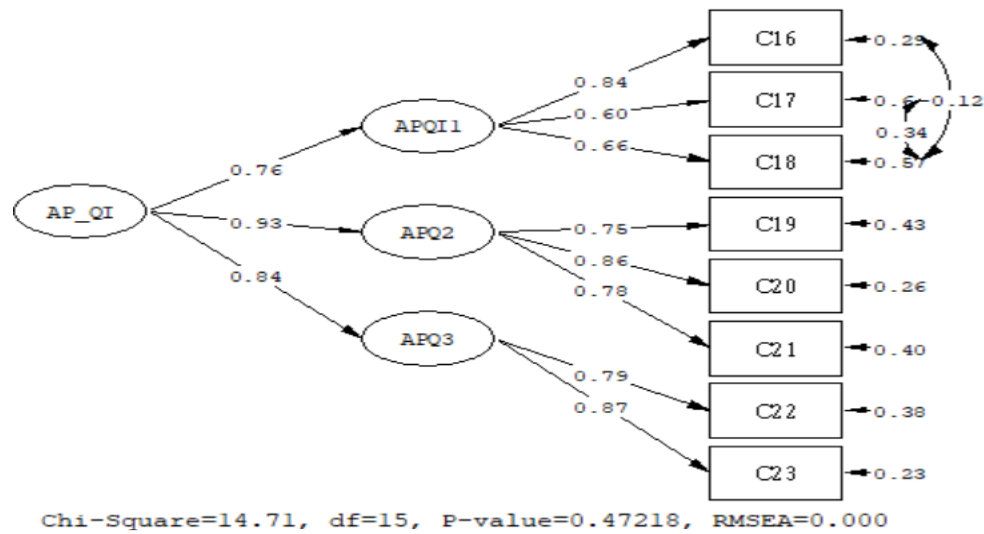
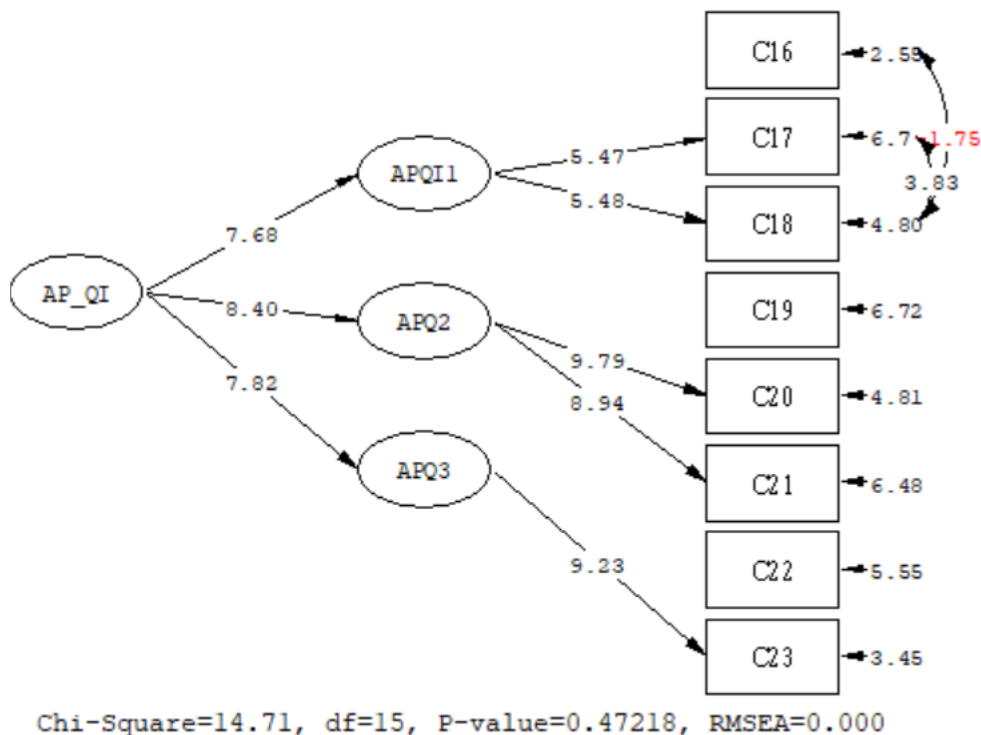


Figure 4-3- Confirmatory factor analysis of the overarching theme of audit and quality improvement processes in the standard estimation mode

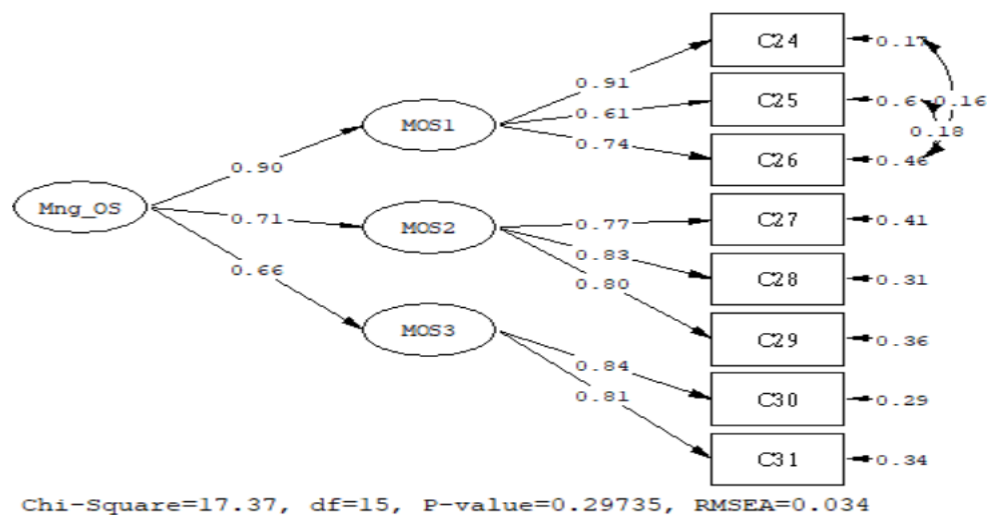
As is clear from Figure 4-6, all factor loadings of the basic and organizing themes are greater than 0.4.

Figure 4-7 shows the confirmatory factor analysis model of the overarching theme of audit and quality improvement processes in the significant coefficient mode:

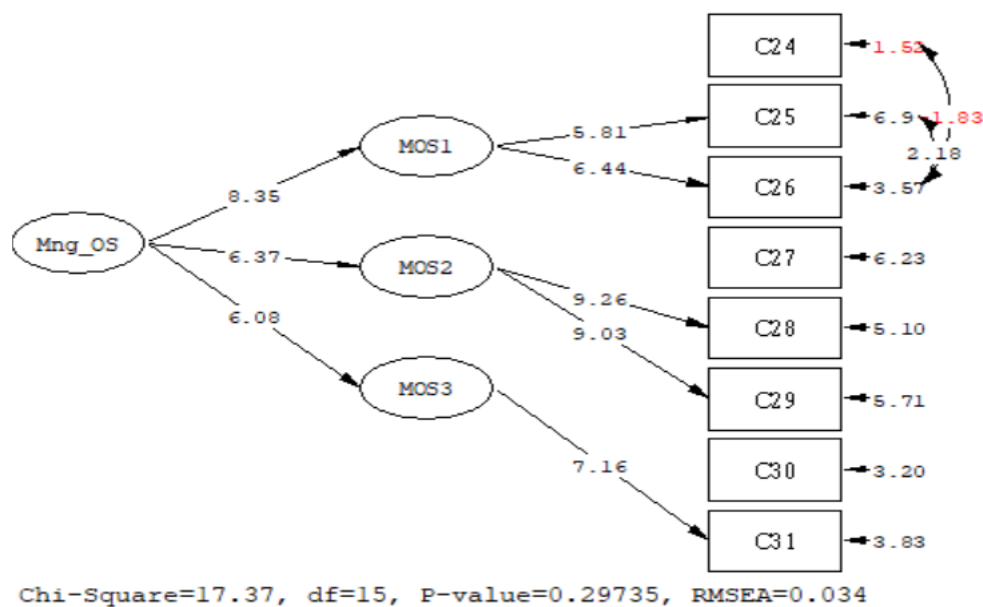


#### 4-1-Confirmatory factor analysis of the overarching theme of management and organizational support

Figure 4-6 shows the confirmatory factor analysis model of the overarching theme of management and organizational support in the standard estimation mode:



As shown in Figure 4-6, all factor loadings of the basic and organizing themes are greater than 0.4. Figure 4-7 shows the confirmatory factor analysis model of the overarching theme of organizational management and support in the form of a significant coefficient.



#### 4-1-Confirmatory factor analysis of the comprehensive theme of legal facilities and frameworks

Figure 4-6 shows the confirmatory factor analysis model of the comprehensive theme of legal facilities and frameworks in the standard estimation mode:

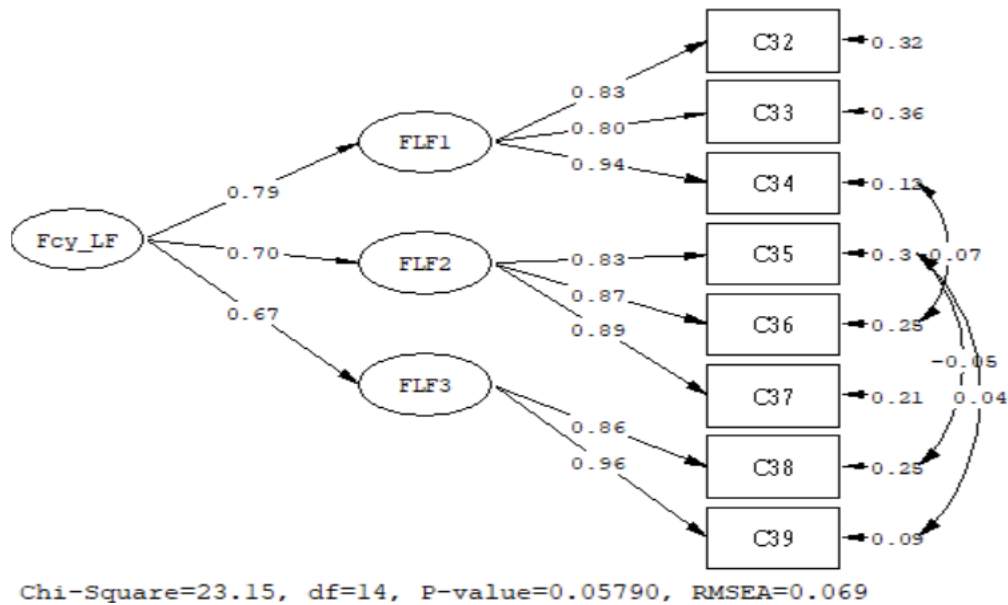
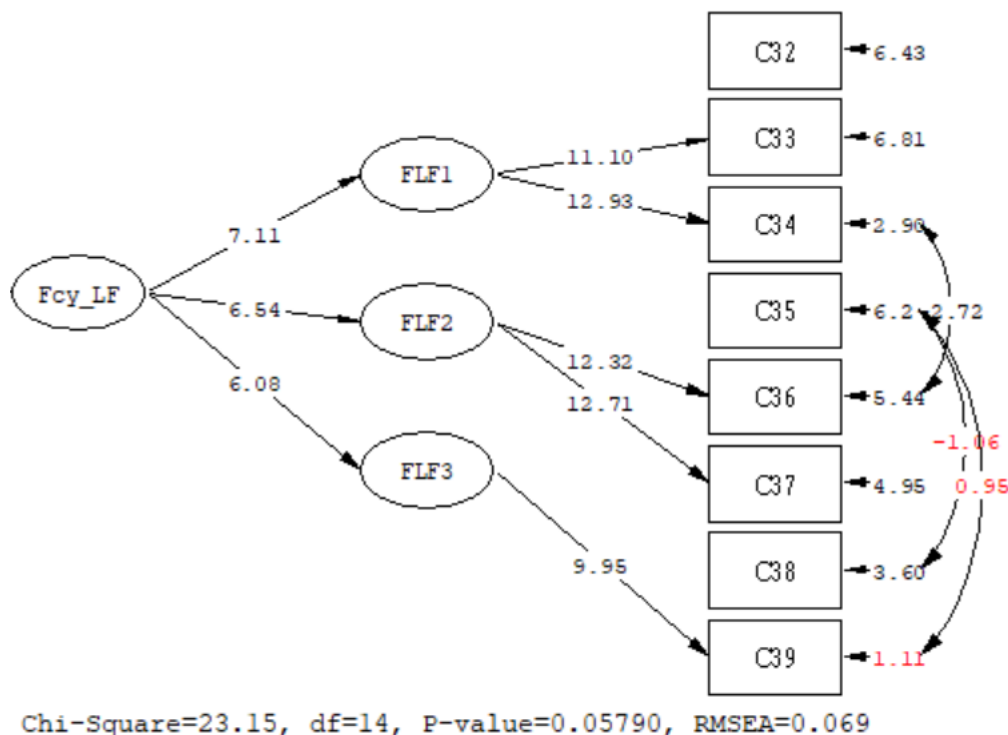


Figure 4-4- Confirmatory factor analysis of the overarching theme of legal facilities and frameworks in the standard estimation mode

As is clear from Figure 4-6, all factor loadings of the basic and organizing themes are greater than 0.4

Figure 4-7 shows the confirmatory factor analysis model of the overarching theme of legal facilities and frameworks in the significant coefficient mode:



### 5-3 Examination of the overall model fit

After examining the measurement model fit indices and structural model fit, in this section of the fourth chapter, the overall model fit is examined. For this purpose, the overall model fit criterion is used. In fact, this index is obtained

from the square of the product of the mean variance extracted from the main structures of the research model by the mean coefficients of determination of the dependent variables of the research.

**Table 4-1- Overall model fit**

Average AVE values	Average R2 values	Gof
0/568	0/878	0/706

According to Wetzels et al. (2009, p. 187), the values of 0.01, 0.25, and 0.36 indicate weak, moderate, and strong levels for the overall model fit index. In the present study, the overall model fit index value was obtained as 0.706, which indicates a strong overall fit of the research model.

#### 4-5-4- Testing the research hypotheses

In this section, the research hypotheses are tested based on the path coefficients. Hypothesis one (H1) indicates the significance of the effect of the independent variable on the dependent variable, and the null hypothesis indicates the opposite; if the t value is in the range of -1.96 to +1.96 or the significance level is greater than 0.05, the null hypothesis is confirmed; otherwise, the null hypothesis is confirmed.

Figure 4-7 shows the direct effects of the independent variables on the dependent variables of the model along with the significance level of each:

**Table 4-2-Results of testing research hypotheses**

Result	Significance level	t value	Path coefficient	Dependent variable	Independent variable	Hypothesis
H <sub>0</sub> رد	0/007	2/718	0/274	Internal audit effectiveness	Legal facilities and frameworks	1
H <sub>0</sub> رد	0/030	2/177	0/199		Organizational structure and independence	2
H <sub>0</sub> رد	0/001	3/305	0/226		Audit processes and quality improvement	3
H <sub>0</sub> رد	0/015	2/447	0/139		Organizational management and support	4
H <sub>0</sub> رد	0/000	4/435	0/246		Human resources and competencies	5

Based on Table 4-10, it can be said:

- The direct effect of legal facilities and frameworks on the effectiveness of internal audit is 0.274; based on the values of t and p, it is possible to accept hypothesis one with 95% confidence and conclude that legal facilities and frameworks have a positive and significant effect on the effectiveness of internal audit.
- The direct effect of organizational structure and independence on the effectiveness of internal audit is 0.199; based on the values of t and p, it is possible to accept hypothesis one with 95% confidence and conclude that organizational structure and legal independence have a positive and significant effect on the effectiveness of internal audit.
- The direct effect of audit processes and quality improvement on the effectiveness of internal audit is 0.226; Based on the t and p values, with a 95% confidence, we can accept hypothesis one and conclude that audit processes and quality improvement have a positive and significant effect on the effectiveness of internal audit.



- The direct effect of management and organizational support on the effectiveness of internal audit is 0.139; Based on the t and p values, with a 95% confidence, we can accept hypothesis one and conclude that management and organizational support have a positive and significant effect on the effectiveness of internal audit.
- The direct effect of human resources and qualifications on the effectiveness of internal audit is 0.246; Based on the t and p values, with a 95% confidence, we can accept hypothesis one and conclude that human resources and qualifications have a positive and significant effect on the effectiveness of internal audit.

Therefore, the model extracted based on the above calculations is as follows:

### **Internal Audit Effectiveness**

Legal Facilities and Frameworks (0.274)

- + Organizational Structure and Independence (0.199)
- + Audit Processes and Quality Improvement (0.226)
- + Organizational Management and Support (0.139)
- + Human Resources and Competencies (0.246)

### **Conclusion**

#### **Summary of the Problem and Objective of the Research**

The effectiveness of internal audit depends on the ability of internal auditors to achieve the established goal in the organization. In recent years, the role of internal audit in corporate governance has faced an increasing trend, considering its relationship with the internal control risk of the system, and auditors have used this to expand their areas such as participation in risk management, control, and governance processes. Effective internal audit can be a great asset for improving public confidence in financial reporting and corporate governance if it includes the following elements: organizational independence, formal mandate, unlimited access, adequate budget, competent staff, the existence of an audit committee, stakeholder support, professional auditing standards, and unlimited scope.

The present study comprehensively identified the subjective meanings of stakeholders in the effectiveness of internal audit, then identified the factors affecting effectiveness, how each factor affects audit effectiveness, and finally presented a model for evaluating the effectiveness of internal audit in Iranian commercial banks.

The purpose of the present study is to improve the level of internal audit in Iranian commercial banks; and in general, the purpose is to identify the factors affecting the effectiveness of internal audit in Iranian commercial banks.

#### **Summary of Results**

Based on the studies and using expert opinions, the results showed that the subjective meanings and factors affecting audit effectiveness can be classified based on six categories as follows:

Internal audit unit staff - Internal audit system - Organizational management - Organizational facilities - Stakeholders - Quality of accounting records

#### **Overall Conclusion**

Given that improving and making internal controls more effective is effective in reducing various types of risks in the banking industry, it is possible to help strengthen them by identifying factors affecting the effectiveness of internal controls. Based on the results of this study, commercial banks can focus on identifying factors affecting the effectiveness of internal audit within the framework of 5 main topics and in the form of 39 subgroups.

#### **Proposals**

Evaluating internal controls, optimally formulating applicable standards in the banking industry, and also formulating specific laws at the central banking level are the basis for improving all variables affecting internal controls. In this study, since the population studied was internal auditors, the head of internal audit, and the head or

members of the audit committee of commercial banks and the Iranian Internal Auditors Association, the results of the study can be used to apply the research model to all economic units in the country, including public and private units; the results of this study can also be used to examine the effects of the role of the identified factors on risk management and improving corporate governance.

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